

Yan Oi Tong Tin Ka Ping Secondary School
F.3 Physics Teaching Schedule For 2019-2020

	Period	Topics(Contents)	Teaching Activities (Experiment, Exercise, Quiz)	Progress Evaluation
		Section1 Light		
1-4	8	1. Refraction of Light 1.1 The Laws of Refraction	<ul style="list-style-type: none"> ● Examine the laws of refraction ● Sketch the path of a ray refracted at the boundary ● Realise $n = \frac{\sin i}{\sin r}$ as the refractive index of a medium ● Solve the problems involving refraction at the boundary 	
5-7	6	1.2 Total internal reflection		
8-11	8	2 Lenses 2.1 Convex and concave lenses 2.2 Images formed by convex lenses 2.3 Images formed by Concave lenses	<ul style="list-style-type: none"> ● Construct images formed by converging lenses graphically ● Construct images formed by diverging lenses graphically ● Distinguish between real and virtual images ● Apply $\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$ to solve problem for a single lens 	

1st Examination would take place during the 12th cycle.

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		Section 2 Heat and Gases	
12-15	8	1. Temperature and Thermometers 1.1 Temperature 1.2 Temperature Scale 1.3 Thermometers 1.4 Molecular motion and temperature	<ul style="list-style-type: none"> ● Realise temperature as the degree of hotness of an object. ● Define and use degree Celsius as a unit of temperature ● Explain the use of temperature-dependent properties in measuring temperature ● Investigate the structure of a real thermometer ● Interpret temperature as a quantity associated with the average kinetic energy due to random motion of molecules in a system.
16-19	8	2. Heat and Internal energy 2.1 Heat and internal energy 2.2 Heat capacity and specific heat capacity	<ul style="list-style-type: none"> ● Realise that heat is the energy transferred as a result of the temperature difference between two objects. ● Describe the effect of mass, temperature and state of matter on the internal energy of a system. ● Relate internal energy to the sum of the kinetic energy of random motion and the potential energy of molecules in the system. ● Define heat capacity as $C = \frac{Q}{\Delta T}$ and specific heat capacity as $c = \frac{Q}{m\Delta T}$ ● Determine the specific heat capacity of a substance

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20-24	10	<p>2.3 Mixture and conservation of energy.</p> <p>2.4 Importance of the high specific heat capacity of water.</p> <p>3. Change of state</p> <p>3.1 States of matter</p> <p>3.2 Latent heat</p> <p>3.3 Specific latent heat</p> <p>3.4 Evaporation</p>	<ul style="list-style-type: none"> ● Solve problems involving heat capacity and specific heat capacity ● Discuss the practical importance of the high specific heat capacity of water. ● State the three states of matter ● Determine the melting point and boiling point ● Interpret latent heat in terms of the change of potential energy off the molecules during the change of state ● Define specific latent heat of fusion as $l_f = \frac{Q}{m}$ ● Define specific latent heat of vaporization as $l_v = \frac{Q}{m}$ ● Solve the problem involving latent heat ● Realise the occurrence of evaporation below boiling point ● Explain the cooling effect of evaporation ● Discuss the factors affecting rate of evaporation ● Explain evaporation in terms of molecular motion 	
25	1	Revision before the second examination		
2nd Examination would take place after the 25th cycle				